

## **REMARKS**

Claims 1, 3-10, 14-16, 22-24 and 26-29 were pending and examined in the Office Action dated June 29, 2004. Claims 1, 3-10 were rejected; claims 14-16 were objected to; and claims 22-24, 26-29 were allowed in that Office Action. Claims 1, 9-10 have been modified, claims 41-45 have been added and no claims have been deleted by this Amendment. Thus, claims 1, 3-10, 14-16, 22-24, 26-29 and 41-45 are now pending in this application. Applicant believes that no new matter has been added by this Amendment. Applicant respectfully requests reconsideration of this application.

### **CLAIM REJECTIONS – 35 U.S.C. § 102**

Claims 1 and 9 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Zhu et al. (U.S. Patent No. 6,399,215). The Zhu '215 patent discloses processing commercially pure titanium (col. 4, lines 28-30) to provide a billet of "ultrafine-grained titanium" for use in certain medical implants. No starting materials other than commercially pure titanium are disclosed in the Zhu '215 patent. Accordingly, Applicant has amended claim 1 herein to limit the claimed substrate to a "metal alloy," which is not taught or suggested by the Zhu '215 patent. Additionally, Applicant has amended claim 9 to limit the claimed substrate to titanium based alloys. Thus, Applicant respectfully submits that the Examiner's rejection of independent claim 1 and dependent claim 9 under § 102 should be withdrawn.

### **CLAIM REJECTIONS – 35 U.S.C. § 103**

Claims 3-8 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Zhu '215 patent standing alone. As Applicant understands the rejection, the Examiner is of the opinion that Applicant's claimed metal alloys (e.g., stainless steel, cobalt-chromium, nickel-titanium) could be substituted for commercially pure titanium as a starting material in the Equal Channel Angular Extrusion (ECAE) process disclosed in

the Zhu `215 patent. Applicant respectfully disagrees with the Examiner that such a "mere substitution" would have been obvious to one having ordinary skill in the art. To support an obviousness rejection there must be some suggestion or motivation to modify a reference or combine reference teachings -- see MPEP § 706.02(j). Without such a teaching or suggestion to modify the reference, the Examiner is using improper hindsight to glean from Applicant's teachings that which is not disclosed in the cited reference. See In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988).

There is nothing in the Zhu `215 patent that would suggest or motivate one of ordinary skill in the art to substitute Applicant's claimed metal alloys for the commercially pure titanium used in the ECAE process -- see MPEP § 2143.01. Moreover, there must be a reasonable expectation of success with such a substitution, and Applicant submits that those of ordinary skill in the art in possession of the Zhu `215 patent alone would not reasonably expect the ECAE process to yield fine grained metal alloys as claimed by Applicant. Accordingly, the Examiner's substitution of metal alloys for commercially pure titanium in the process disclosed in the Zhu `215 patent is an impermissible "obvious to try" rejection -- see MPEP § 2145.X.B. Furthermore, Applicant respectfully submits that it is the burden of the Examiner to apply each of the elements of Graham, namely to identify the level ordinary skill in the art, which has not been done -- see MPEP §§ 2141, 2141.03. Thus, Applicant respectfully submits that the Examiner's rejection of claims 3-8 and 10 under § 103 is improper and should be withdrawn.

### **CLAIM OBJECTIONS**

Claims 14-16 stand objected to as being dependent upon rejected claim 1, wherein the Examiner stated that claims 14-16 would be allowable if rewritten in independent form. Accordingly, new claims 41-43 are based upon claims 14-16, respectively, wherein claim 41 includes the limitations of claim 1 and claim 14. Dependent claims 44

and 45 are directed to limiting the claimed substrate to certain metals and metal alloys, respectively. Thus, Applicant respectfully submits that new claims 41-45 are allowable. In addition, Applicant has amended base claim 1 so as to avoid the cited reference. Therefore, Applicant respectfully submits that the Examiner's objection of claims 14-16 should be withdrawn.

## **CONCLUSION**

Applicant has filed concurrently herewith a supplemental Information Disclosure Statement.

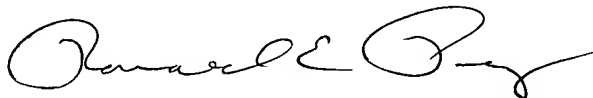
In view of the foregoing, Applicant respectfully submits that claims 1, 3-10, 14-16, 22-24, 26-29 and 41-45 are in condition for allowance, and that the application should be passed to issue. Pursuant to 37 C.F.R. § 1.141 and MPEP § 809, Applicant requests the opportunity to present claims directed to non-elected species upon allowance of a generic claim. The Examiner is encouraged to contact the undersigned should there be any questions or resolvable matters regarding this application.

Respectfully submitted,

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